CLAIMS

What is claimed is:

1. A method for generating service state data and extensible meta-data information with a service oriented state data generator (SSDG) comprising:

establishing a platform independent, extensible meta-data model for said meta-data information;

obtaining state data schema based on a service state data description;

defining an extensible set of meta-data attributes and templates corresponding to said meta data based on requirements of a service;

utilizing said meta-data model and based on said state data schema and said attributes, generating service state data based on said service state data schema; and

said service state data including at least one of: state data, state data logical mapping, state data physical mapping, meta-data associated with said service state data and meta-data model correlations associated with said meta-data.

2. The method of Claim 1 further including generating code to enable said service to support a query on said service state data and notification on service state data change.

3. The method of Claim 1 further including generating code to enable said service to provide access mechanisms on said service state data.

4. The method of Claim 1 further including creating service state data from any data definition schema; wherein said data definition schema include at least one of XML Schema, DTD, RELAX NG custom schema definition languages, derivatives of said schema.

5. The method of Claim 1 wherein said a meta-data modeling provides flexibility in generating said service state data by providing versioning, compatibility, and a flexible design process and a standard code generation; and

wherein said meta-data modeling in indicative of schema or meta-data for said service state meta-data.

6. The method of Claim 1 wherein said meta-data model is supported with a drag and drop window system wherein a service developer can annotate said state data schema by drag and drop meta-data information.

7. The method of Claim 1 wherein said meta-data models employ a common language including XML or a derivative thereof for describing said meta-data that is extensible to support additional meta-data features.

8. The method of Claim 1 further including enabling a user to define a mapping between meta-data and service state data; said data mapping including at least one of a logical abstraction of said service state data where this abstraction holds references to real service instance data, and a direct mapping can be a direct mapping to service state data.

9. The method of Claim 1 wherein said meta-data attributes and templates facilitate mapping meta-data to said service state data, wherein said attributes are meta-data information on at least one of service state constraints, service state qualifiers, service state data access mechanisms.

10. The method of Claim 1 wherein said defining meta-data attributes includes extensible service state data qualifiers and:

defining notification qualifiers on said service state data to indicate whether a change in said service state data promulgates notification;

defining security requirements on said service state data discovery and notification; and

defining transaction qualifiers of said service state data.

11. The method of Claim 1 wherein said defining meta-data attributes includes defining extensible service state data constraints and defining one or more relationships among said service state data, wherein said extensible service state data constraints include at least one of; constraints on mutability of said service state data; constraints on validity of said service state data including life time constraints; and constraints cardinality of said service state data.

12. The method of Claim 1 wherein said defining meta-data attributes includes defining extensible service state data access mechanisms, wherein said extensible service state data access mechanisms include: a flexible callback mechanism on said service state data and expression through said meta-data; a data push mechanism for service state data update and expression through said meta-data; other extensible data access mechanisms on said service state data, including direct access to said service state data held in a database or direct access to state data through SNMP,CIM, Web services; and extensible custom template mechanisms for data access based on requirements of a service.

13. The method of Claim 1 further including generating pluggable extension mechanisms for meta-data attributes.

14. The method of Claim 1 further including obtaining service developer feedback on meta-data generation for said service state data; based on said meta-data attributes.

15. The method of Claim 14 wherein said service developer feedback is provided through custom dialog boxes; wherein said service developer can pass parameters to said service oriented state data generator; and wherein said service developer can provide templates to guide said generating and said mapping.

16. The method of Claim 1 further including a service developer creating a relationship between selected service state data.

17. The method of Claim 1 further including validating software code based on said generating to ensure that said code is compatible with said meta-data model and said state data schema.

18. The method of Claim 1 wherein said generator is configured as a pluggable framework to facilitate use as an eclipse plug in or included with other user interfaces frameworks.

19. A system for generating service state data and extensible meta-data information with a service oriented state data generator (SSDG) comprising:

a means for establishing a platform independent, extensible meta-data model for said meta-data information;

a means for obtaining state data schema based on a service state data description;

a means for defining an extensible set of meta-data attributes and templates corresponding to said meta data based on requirements of a service;

a means for utilizing said meta-data model and based on said state data schema and said attributes, generating service state data based on said service state data schema; and

said service state data including at least one of: state data, state data logical mapping, state data physical mapping, meta-data associated with said service state data and meta-data model correlations associated with said meta-data.

20. A storage medium encoded with a machine-readable computer program code, said code including instructions for causing a computer to implement a method for generating service state data and extensible meta-data information with a service oriented state data generator (SSDG), the method comprising:

establishing a platform independent, extensible meta-data model for said meta-data information;

obtaining state data schema based on a service state data description;

defining an extensible set of meta-data attributes and templates corresponding to said meta data based on requirements of a service;

utilizing said meta-data model and based on said state data schema and said attributes, generating service state data based on said service state data schema; and

said service state data including at least one of: state data, state data logical mapping, state data physical mapping, meta-data associated with said service state data and meta-data model correlations associated with said meta-data.